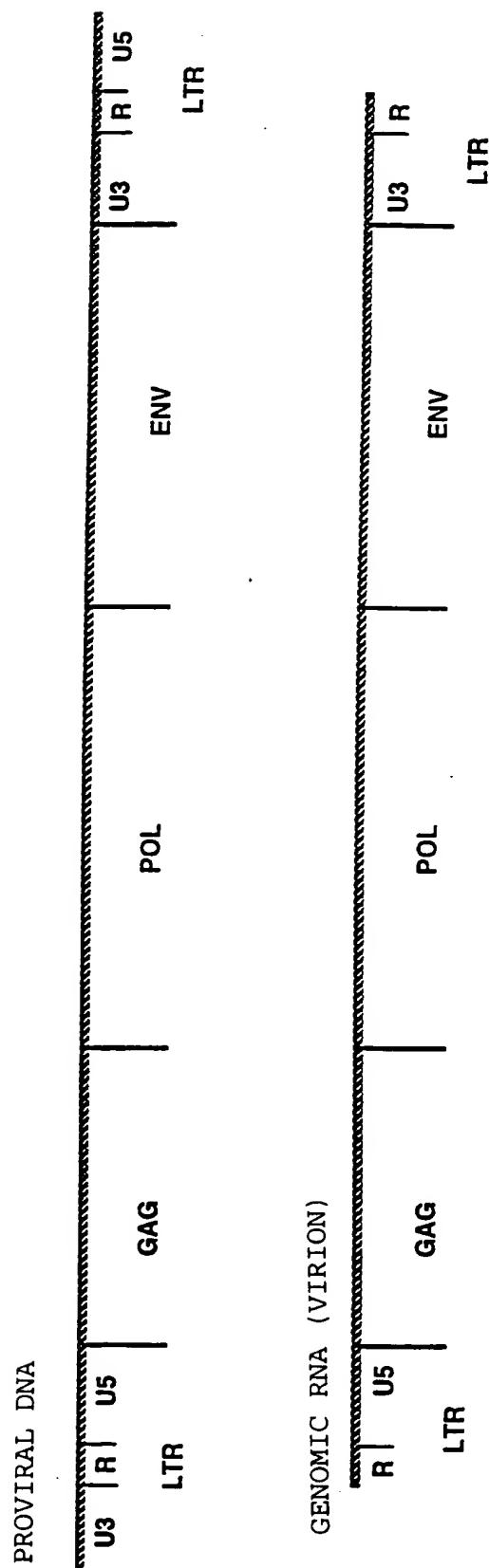


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FIG 1



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FIG 2

| 10 | 20 | 30 | 40 | 50 | |
|---------------------|---------------------|-------------------|-------------------|-------------------|-----|
| <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | |
| GCTTATAGAA | GGACCCCTAG | TATGGGTAA | TCGCCCTCTGG | GAAACCAAGC | 50 |
| A Y R R | T P S M G . | S P L G N Q A | | | |
| L I E G P L V | W G N P L W E T K P | | | | |
| L . K D P . | Y G V I P S G K P S | | | | |
| CCCAGTACTC | AGCAGGAAAAA | ATAGAATAGG | AAACCTCACCA | AGGACATACT | 100 |
| P V L S R K N | R I G N L T | R T Y F | | | |
| Q Y S A G K I E . | E T S Q G H T | | | | |
| P S T Q Q E K . | N R K P H K D I L | | | | |
| TTOCTCCCT | CCAGATGGCT | AGCCACTGAG | GAAGGAAAAA | TACTTTCAACC | 150 |
| P P L Q M A S H . | G R K N T F T | | | | |
| F L P S R W L A T E | E G K I L S P | | | | |
| S S P P D G . | P L R K E K Y F H L | | | | |
| TGCAGCTAAC | CAACAGAAAT | TACTAAAAC | CCITCACCAA | ACCTTCCACT | 200 |
| C S . P T E I T . | N P S P N L P L | | | | |
| A A N Q Q K L L K T | L H Q T F H L | | | | |
| Q L T N R N Y L K P | F T K P S T | | | | |
| TAGGCATTGA | TAGCACCCAT | CAGATGGCCA | AATTATTATT | TACTGGACCA | 250 |
| R H . . H P S D G Q | I I I Y W T R | | | | |
| G I D S T H Q M A K | L L F T G P | | | | |
| . A L I A P I R W P | N Y Y L L D Q | | | | |
| GGCTTTCA | AAACTATCAA | GAAGATAGTC | AGGGGCTGIG | AAGTGTGCCA | 300 |
| P F Q N Y Q E D S Q | G L . S V P | | | | |
| G L F K T I K K I V | R G C E V C Q | | | | |
| A F S K L S R R . | S G A V K C A K | | | | |
| AAGAAATAAT | | | | | 310 |
| K K . | | | | | |
| R N N | | | | | |
| E I | | | | | |

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FIG 2 (continued)

| 10 | 20 | 30 | 40 | 50 | |
|---------------------------------|---------------|-------------|------------|------------|-----|
| 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | |
| CCCTGTATCT | TAAACCTCT | TGTTAAGTTT | GTCCTCTCCA | GAATCAAAAC | 50 |
| P C I F N L L | V K F V S S R | I K T | | | |
| P V S L T S L | L S L S L P | E S K L | | | |
| L Y L . P P C . | V C L F Q | N Q N | | | |
| TGTAAAACTA CAAATTGGTC | TTCATAATGGA | GCACCCAGATG | GAGTCATGA | | 100 |
| V K L Q I V L | Q M E H Q M | E S M T | | | |
| . N Y K L F F K W S T R W S P . | | | | | |
| C K T T N C S S N G A P D G | V H D | | | | |
| CTAAGATCCA CGTGGAACCC | CTGGACCGGC | CTGCTAGCCC | ATGCTCCGAT | | 150 |
| K I H R G P L D R P | A S P C S D | | | | |
| L R S T V D P W T G | L L A H A P M | | | | |
| . D P P W T P G P A C . | P M L R C | | | | |
| GTTAATGACA TTGAAGGCAC | CCCTCCCGAG | GAAATCTCAA | CTGCACAACC | | 200 |
| V N D I E G T P P E | E I S T A Q P | | | | |
| L M T L K A P L P R K S Q | L H N P | | | | |
| . . H . R H P S R G N L N C T T | | | | | |
| CCTACTATGC CCCAATTCAAG | CGGGAAGCAG | TTAGAGCGGT | CATCAGCCAA | | 250 |
| L L C P N S A G S S . | S G H Q P T | | | | |
| Y Y A P I Q R E A V R A V | I S Q | | | | |
| P T M P Q F S G K Q L E R S | S A N | | | | |
| CCTCCCCAAC AGCACTTGGG | TTTCTGTT | GAGAGGGGG | ACTGAGAGAC | | 300 |
| S P T A L G F S C . | E G G L R D | | | | |
| P P Q Q H L G F P V E R G D . | E T | | | | |
| L P N S T W V F L L R G G | T E R Q | | | | |
| AGGACTAGCT GGATTCTTAA | GGCCAAACGAA | GAATCCCTAA | GCCTAGCTGG | | 350 |
| R T S W I S . A N E E S L S | L A G | | | | |
| G L A G F P R P T K N P . | A . L G | | | | |
| D . L D F L G Q R R I P K | P S W | | | | |

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FIG 3

| 10 | 20 | 30 | 40 | 50 | |
|---------------------|---------------------|-----------------------------|---------------------|---------------------|-----|
| 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | 400 |
| GAAGGTGACT | GCAATCCACCT | CTAAACATGG | GGCTTGCAAC | TTAGCTCACA | |
| K V T A S T S | K H G A C N | L A H T | | | |
| R . L H P P | L N M G | L A T . | L T | | |
| E G D C I H L | . T W | G L Q L | S S H | | |
| CCCCGACCAAT | CAGAGAGCTC | ACTAAAATGC | TAATTAGGCA | AAAATAGGAG | 450 |
| R P I R E L | T K M L | I R Q K . | E | | |
| P D Q S E S S | L K C . | L G K N R R | | | |
| P T N Q R A H | . N A N . | A K I G G | | | |
| G T A A A G A A A T | A G C C A A T C A T | C T A T T G O C T G | A G A G C A C A G C | C G G A G G G A C A | 500 |
| V K K . | P I I Y C L | R A Q R | E G Q | | |
| . R N S Q S S | I A . | E H S G R D K | | | |
| K E I A N H | L L P E | S T A G G T | | | |
| AGGATCGGGA | TATAAACCCA | GGCATTCGAG | CGGGCAACCG | CAACCCCTT | 550 |
| G S G Y K P R | H S S R Q R | Q P P L | | | |
| D R D I N P | G I R A G N G | N P L | | | |
| R I G I . | T Q A F E | P A T A T P F | | | |
| T G G G T C C C C T | C C C T T G T A T | G G G A G C I C T G | T T T C A C T C T | A T T T C A C T C T | 600 |
| G P L P L Y | G R S V | F T L F H S | | | |
| W V P S L C M | G A L F S L Y | F T L | | | |
| G S P P F V W | A L C F H S | I S L Y | | | |
| AT T A A A T C T T | G C A A C T G A A A | A A A A A A A A A A A A A A | | | |
| I K S C N . | K K K K K | | | | |
| L N L A T E K | K K K K K | | | | |
| . I L Q L K | K K K K K | | | | |

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FIG 4

| 10 | 20 | 30 | 40 | 50 | |
|-------------------|-------------------|-------------------|-------------------|-------------------|-----|
| <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | |
| ATGGCCCTCC | CTTATCATAAC | TTTCTCTTT | ACTGTTCTCT | TACCCCTTT | 50 |
| M A L P | Y H T | F L F | T V L L | P P F | |
| W P S | L I I L | F S L | L F S | Y P L S | |
| G P P | L S Y | F S L Y | C S L | T P F | |
| CGCTCTCACT | GCACCCCCCTTC | CATGCCGCG | TACAACCAGT | AGCTCCCTT | 100 |
| A L T | A P P P | C C C | T T S | S S P Y | |
| L S L | H P L | H A A V | Q P V | A P L | |
| R S H C | T P S | M L L | Y N Q . | L P L | |
| ACCAAGAGTT | TCTATGAAGA | ACGGGGCTTC | CTGGAAATAT | TGATGCCCCA | 150 |
| Q E F | L . R | T R L P | G N I | D A P | |
| T K S F | Y E E | R G F | L E I L | M P H | |
| P R V | S M K N | A A S | W K Y . | C P I | |
| TCATATAGGA | GTTCATCTAA | GGGAAACTCC | ACCTTCACIG | CCCACACCCA | 200 |
| S Y R S | L S K | G N S | T F T A | H T H | |
| H I G | V Y L R | E T P | P S L | P T P I | |
| I . E F I . | G K L H | L H C | P H P | | |
| TATGCCCCGC | AACTGCTATA | ACTCTGCCAC | TCTTGCATG | CATGCAAATA | 250 |
| M P R | N C Y N | S A T | L C M | H A N T | |
| C P A | T A I | T L P L | F A C | M Q I | |
| Y A P Q | L L . | L C H | S L H A | C K Y | |
| CTCATTATG | GACAGGGAAA | ATGATTAATC | CTAGTGTGCC | TGGAGGACTT | 300 |
| H Y W | T G K | M I N P | S C P | G G L | |
| L I I G | Q G K . | L I | L V V L | E D L | |
| S L L | D R E N | D . S . | L S | W R T W | |
| GGAGCCACTG | TCTGTTGGAC | TTACTTCACC | CATACCAAGTA | TGCTCTGATGG | 350 |
| G A T V | C W T | Y F T | H T S M | S D G | |
| E P L | S V G L | T S P | I P V | C L M G | |
| S H C | L L D | L L H P | Y Q Y | V . W | |

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FIG 4 (continued)

| 10 | 20 | 30 | 40 | 50 | |
|---------------------|-----------------------|---------------------|---------------------|---------------------|------|
| <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | |
| A C T C A C C T G | T G T A A A A T T T | A G C A A T A C T A | T A G A C A C A A C | C A G C T C C C A A | 750 |
| L T C V K F | S N T I | D T T | S S Q | | |
| T S P V | . N L A I L | . T Q P | A P N | | |
| P H L C K I | . Q Y Y | R H N | Q L P M | | |
| | | | | | |
| T G C A T C A G G T | G G G T A A C A C C | T C C C A C A C G A | A T A G T C T G C C | T A C C C T C A G G | 800 |
| C I R W V T P | P T R | I V C L | P S G | | |
| A S G G | . H L P H E | . S A Y | P Q E | | |
| H Q V G N T | S H T N | S L P | T L R | | |
| | | | | | |
| A A T A T T T T T T | G T C T G I G G G T A | C C T C A G C C T A | T C A T T G T T T G | A A T G G C T C T T | 850 |
| I F F V C G T | S A Y H C L | N G S S | | | |
| Y F L S V V P Q P I | I V . M A L | | | | |
| N I F C L W Y L S L | S L S L F E | W L F | | | |
| | | | | | |
| C A G A A T C T A T | G I G C T T C C T C | T C A T T C T T A G | T G C C C C C T A T | G A C C A T C T A C | 900 |
| E S M C F L S F L V | P P M T I Y | | | | |
| Q N L C A S S H S . | C P L . P S T | | | | |
| R I Y V L P L I L S | A P Y D H L H | | | | |
| | | | | | |
| A C T G A A C A A G | A T T I A T A C A A | T C A T G T C G T A | C C T A A G C C C C | A C A A C A A A A G | 950 |
| T E Q D L Y N H V V | P K P H N K R | | | | |
| L N K I Y T I M S Y | L S P T T K E | | | | |
| . T R F I Q S C R T | . A P Q Q K | | | | |
| | | | | | |
| A G T A C C C A T T | C T T C C T T T G | T T A T C A G A G C | A G G A G T G C T A | G G C A G A C T A G | 1000 |
| V P I L P F V I R A | G V L G R L G | | | | |
| Y P F F L L L S E Q | . E C . A D . | | | | |
| S T H S S F C Y Q S | R S A R Q T R | | | | |
| | | | | | |
| G T A C T G G C A T | T G G C A G T A T C | A C A A C C T C T A | C T C A G T T C T A | C T A C A A A C T A | 1050 |
| T G I G S I T T S T | Q F Y Y K L | | | | |
| V L A L A V S Q P L | L S S T T N Y | | | | |
| Y W H W Q Y H N L Y | S V L L Q T I | | | | |

FIG 4 (continued)

| 10 | 20 | 30 | 40 | 50 | |
|-----------------|---------------------|---------------|------------|------------|------|
| 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1100 |
| TCTCAAGAAA | TAAATGGGGA | CATGGAACAG | GTCACIGACT | CCCTGGTCAC | |
| S Q E I | N G D M | E Q V T D S | L V T | | |
| L K K . | M V T W N R | S L T P W S P | | | |
| S R N K W . | H G T G H . | L P G H | | | |
| CTTGCAGAT | CAACTTAAC | CCCTAGCAGC | AGTAGTCCTT | CAAAATCGAA | 1150 |
| L Q D Q L N S | L A A V V L | Q N R R | | | |
| C K I N L T P . | Q Q . S F | K I E | | | |
| L A R S T . | L P S S S S P S | K S K | | | |
| GAGCTTTAGA | CTTGCTAAC | GCCAAAAGAG | GGGGAACTTG | TTTATT | 1200 |
| A L D L L T A | K R G G T C | L F L | | | |
| E L . T C . P | P K E G E P V | Y F . | | | |
| S F R L A N R Q | K R G N L F | I F R | | | |
| GGAGAAGAAC | GCTGTATTA | TGTTAATCAA | TCCAGAATTG | TCACIGAGAA | 1250 |
| G E E R C Y Y | V N Q S R I V | T E K | | | |
| E K N A V I M L | I N P E L S L R K | | | | |
| R R T L L L C . | S I Q N C H . E | | | | |
| AGTTAAAGAA | ATTCGAGATC | GAATACAATG | TAGAGCAGAG | GAGCTICAAA | 1300 |
| V K E I R D R | I Q C R A E E | L Q N | | | |
| L K K F E I E | Y N V E Q R S F K | | | | |
| S . R N S R S N | T M . S R G A S K | | | | |
| ACACCGAACG | CTGGGGACTC | CTCAGCCAAT | GGATGCCCTG | GGTTCTCCCC | 1350 |
| T E R W G L | L S Q W M P W | V L P | | | |
| T P N A G A S | S A N G C P G | F S P | | | |
| H R T L G P P | Q P M D A L G S P L | | | | |
| TCTTGTAGGAC | CTCTAGCAGC | TCTAATATTG | TTACIGCTT | TTGGACCTG | 1400 |
| F L G P L A A L | I L L L L F | G P C | | | |
| S . D L . Q L . | Y C Y S S L D P V | | | | |
| L R T S S S S N | I V T P L W T L | | | | |

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FIG 4 (continued)

10 20 30 40 50
1234567890 1234567890 1234567890 1234567890 1234567890

TATCITTAAC CTCCTTGTTA AGTTTGTCTC TTCCAGAATT GAAGCTGTA 1450
I F N L L V K F V S S R I E A V K
S L T S L L S L S L P E L K L .
Y L . P P C . V C L F Q N . S C K

AGCTACAGAT GGCTTACAA ATGGAACCCC A 1481
L Q M V L Q M E P
S Y R W S Y K W N P
A T D G L T N G T P

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FIG 5

| 10 | 20 | 30 | 40 | 50 | |
|--|---------------------|-------------------|-------------------|-------------------|-----|
| <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | |
| TCAAAATCGA | AGAGCTTTAG | ACTTGCTAAC | CGCCAAAAGA | GGGGGAACTT | 50 |
| S K S K S F R | L A N R Q K R | G N L | | | |
| Q N R R A L D | L L T A K R | G G T C | | | |
| K I E E L . | T C . P P K E | G E P | | | |
| GTTIATTTT AGGGGAAGAA TGCTGTTAGT ATGTTAATCA ATCTGGAATC | | | | | 100 |
| F I F R G R M | L L V C . S I W N H | | | | |
| L F L G E E C C | . Y V N Q S G I | | | | |
| V Y F . G K N A V S M L I N L E S | | | | | |
| ATTACTGAGA AAGTTAAAGA AATTGAGAT CGAATATAAT GTAGAGCAGA | | | | | 150 |
| Y . E S . R N L R S N I M . S R | | | | | |
| I T E K V K E I . D R I . C R A E | | | | | |
| L L R K L K K F E I E Y N V E Q R | | | | | |
| GGACCTTCAA AACACTGCAC CCTGGGGCT CCTCAGCCAA TGGATGCCCT | | | | | 200 |
| G P S K H C T L G P P Q P M D A L | | | | | |
| D L Q N T A P W G L L S Q W M P W | | | | | |
| T F K T L H P G A S S A N G C P | | | | | |
| GGACTCTCCC CTTCCTTAGGA CCTCTAGCAG CTATAATATT TTTACTCTC | | | | | 250 |
| D S P L L R T S S S Y N I F T P L | | | | | |
| T L P F L G P L A A I I F L L L | | | | | |
| G L S P S . D L . Q L . Y F Y S S | | | | | |
| TTTGGACCCCT GTATCTCAA CTTCCTGTGTT AAGTTTGTCT CTTCAGAAT | | | | | 300 |
| W T L Y L Q L P C . V C L F Q N | | | | | |
| F G P C I F N F L V K F V S S R I | | | | | |
| L D P V S S T S L L S L S L P E L | | | | | |
| TGAAGCTGTA AAGCTACAAA TAGCTCTCA AATGGAACCC CAGATGCAGT | | | | | 350 |
| . S C K A T N S S S N G T P D A V | | | | | |
| E A V K L Q I V L Q M E P Q M Q S | | | | | |
| K L . S Y K . F F K W N P R C S | | | | | |

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FIG 5 (continued)

| 10 | 20 | 30 | 40 | 50 | |
|-------------|-------------|------------|-------------|-------------|-----|
| 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | 400 |
| CCATGACTAA | AATCTAACCGT | GGACCCCTGG | ACCGGCCTGC | TAGACTATGC | |
| H D . | N L P W | T P G | P A C . | T M L | |
| M T K | I Y R | G P L D | R P A | R L C | |
| P . L K | S T V | D P W | T G L L | D Y A | |
| TCTGATGTTA | ATGACATTGA | AGTCACCCCT | CCCCAGGAAA | TCTCAACTGC | 450 |
| . C . . H . | S H P S | R G N | L N C | | |
| S D V N | D I E | V T P | P E E I | S T A | |
| L M L | M T L K | S P L | P R K | S Q L H | |
| ACAACCCCIA | CTACACTOCA | ATTCACTAGG | AAGCAGTTAG | ACCAAGTGIC | 500 |
| T T P T | T L Q | F S R | K Q L E | Q L S | |
| Q P L | L H S N | S V G | S S . | S S C Q | |
| N P Y | Y T P | I Q . | E A V R | A V V | |
| AGCCAACCTC | CCCAACAGTA | CTTGGGTTTT | CCTGGTGGAGA | GGGGGGACTG | 550 |
| A N L | P N S T | W V F | L L R | G W T E | |
| P T S | P T V | L G F S | C . E | G G L | |
| S Q P P | Q Q Y | L G F | P V E R | V D . | |
| AGAGACAGGA | CTAGCTGGAT | TTCCTAGGCT | GACTAAGAAT | CCONAAGCCT | 600 |
| R Q D . | L D F L G . | L R I | P K P | | |
| R D R T | S W I S . | A D . | E S X S L | | |
| E T G | L A G F | P R L | T K N | P X A X | |
| ANCTGGGAAG | GTGACCGCAT | CCATCTTAA | ACATGGGCT | TGCAAACCTAG | 650 |
| X W E G | D R I H L . | T W G L | Q L S | | |
| X G K | V T A S | I F K | H G A | C N L A | |
| L G R . | P H P S L N | M G L | A T . | | |
| CCTCACACCG | ACCAATCAGA | GAGCTCACTA | AAATGCTAAT | CAGGAAAAAA | 700 |
| S H P | T N Q R | A H . | N A N | Q A K T | |
| H T R | P I R | E L T K | M L I | R Q K | |
| L T P D | Q S E | S S L | K C . | S G K N | |

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FIG 5 (continued)

| 10 | 20 | 30 | 40 | 50 | |
|-------------------|-------------------|-------------------|-------------------|-------------------|------|
| <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | |
| CAGGAGGTAA | AGCAATAGCC | AATCATCTAT | TGCGTGGAGAG | CACAGGGGA | 750 |
| G G K | A I A | N H L L | P E S | T A G | |
| Q E V K | Q . P | I I Y | C L R A | Q R E | |
| R R . | S N S Q | S S I A . | E H S G K | | |
| AGGACAAGGA | TGGGATATA | AACTCAGGCA | TTCAAGCCAG | CAACAGCAAC | 800 |
| R T R I | G I . | T Q A | F K P A | T A T | |
| G Q G | L G Y K | L R H | S S Q | Q Q Q P | |
| D K D | W D I | N S G I | Q A S | N S N | |
| CCCCTTGGG | TCCTCTCCA | TIGIATGGG | GCTCTGTTT | CACTCTATT | 850 |
| P F G | S P P I | V W E | L C F | H S I S | |
| P L G | P L P | L Y G S | S V F | T L F | |
| P L W V | P S H | C M G | A L F S | L Y F | |
| CACTCTATT | AATCATGCCA | CTGCACTCTT | CTGGTCCGTG | TTTTTATGG | 900 |
| L Y . | I M Q | L H S S | G P C | F L W | |
| H S I K | S C N | C T L | L V R V | F Y G | |
| T L L | N H A T | A L F | W S V | F F M A | |
| CTCAAGCTGA | GCTTTGTC | GCCATOCACC | ACTGCTGTT | GCACCGICA | 950 |
| L K L S | F C S | P S T | T A V C | H R H | |
| S S . | A F V R | H P P | L L F | A T V T | |
| Q A E | L L F | A I H H | C C L | P P S | |
| CAGACGGCT | GCTGACTTCC | ATCCCTTGG | ATCCAGCAGA | GTGTCACIG | 1000 |
| R P A | A D F H | P F G | S S R | V S T V | |
| D P L | L T S | I P L D | P A E | C P L | |
| Q T R C . | L P | S L W | I Q Q S | V H C | |
| TGCTCTGAT | CCAGGGAGGT | ACCCATGCC | ACTCCCGATC | AGGCTAAAGG | 1050 |
| L L I | Q R G | T H C H | S R S G . R | | |
| C S . | S S E V | P I A | T P D Q | A K G | |
| A P D | P A R Y | P L P | L P I | R L K A | |

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FIG 5 (continued)

| | 10 | 20 | 30 | 40 | 50 | |
|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|------|
| <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | |
| CTGCCATTG | TTCCCTGCATG | GCTAAGTGCC | TGGGTTTGTIC | CTAATAGAAC | | 1100 |
| L A I V | P A W | L S A | W V C P | N R T | | |
| L P L | F L H G | . V P | G F V | L I E L | | |
| C H C | S C M | A K C L | G L S | . | N | |
| TGAACACTGG | TCACTGGGTT | CCATGGTTCT | CTTCCATGAC | CCACGGCTTC | | 1150 |
| E H W | S L G S | M V L | F H D | P R L L | | |
| N T G | H W V | P W F S | S M T | H G F | | |
| . T L V | T G F | H G S | L P | . | P T A S | |
| TAATAGAGCT | ATAACACTCA | CCGCATGGCC | CAAGATTCCA | TTCCCTGGTA | | 1200 |
| I E L | . H S | P H G P | R F H | S L V | | |
| . . S Y | N T H | R M A | Q D S I | P W Y | | |
| N R A | I T L T | A W P | K I P | F L G I | | |
| TCTGTGAGGC | CAAGAACCCC | AGGTAGAGA | ANGTGAGGCT | TGCGCACCATT | | 1250 |
| S V R P | R T P | G Q. R X | . G L | P P F | | |
| L . G | Q E P Q | V R E | X E A | C H H L | | |
| C E A | K N P | R S E X | V R L | A T I | | |
| TGGGAAGTGG | CCCAC TGCCA | TTTGGTAGC | GGCCCCACCAC | CATCTGGGA | | 1300 |
| G K W | P T A I | L V A | A H H | H L G S | | |
| G S G | P L P | F W | . R P T T | I L G | | |
| W E V A | H C H | F G S | G P P P | S W E | | |
| GCTGTGGGAG | CAAGGGATCCC | CCAGTAAACA | | | | 1329 |
| C G S | K D P | P V T | | | | |
| A V G A | R I P | Q . | | | | |
| L W E | Q G S P | S N | | | | |

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FIG 6

| 10 | 20 | 30 | 40 | 50 | |
|-----------------------------------|---------------------|------------|---------------|-------------|-----|
| 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | |
| CCTAGAAACGT | ATTCTGGAGA | ATGGGGACCA | ATGTGACACT | CAGACGCTAA | 50 |
| P R T Y | S G E | L G P M | . H S . D A K | | |
| L E R I L E N | W D Q C D T | Q T L R | | | |
| . N V F W R | I G T N V T L | R R . | | | |
| GAAAGAAAACG | ATTTATATTTC | TTCAGCAGTA | CCGCCTGGCC | ACAATATCCT | 100 |
| K E T I Y I L | L Q Y R L A | T I S S | | | |
| K K R F I F | F C S T A W P Q Y P | | | | |
| E R N D L Y S | S A V P P G H N I L | | | | |
| CTTCAAGGGA | GAGAAACCTG | GCTTCTTGAG | GGAAGTATAA | ATTATAACAT | 150 |
| S R E R N L A S | . G K Y K L . H | | | | |
| L Q G R E T W L P E | G S I N Y N I | | | | |
| F K G E K P G F L R | E V . I I T S | | | | |
| CATCTTACAG | CTAGAACCTCT | TCTGTAGAAA | GGAGGGCAAA | TGGAGTGAAG | 200 |
| H L T A R P L L . K | G G Q M E . S | | | | |
| I L Q L D L F C R K | E G K W S E V | | | | |
| S Y S . T S S V E R | R A N G V K | | | | |
| TGCCATATGT | GCAAACCTTC | TITTCATTAA | GAGACAACTC | ACAATTATGT | 250 |
| A I C A N F L F I K R Q L T I M . | | | | | |
| P Y V Q T F F S L R D N S Q L C | | | | | |
| C H M C K L S F H . E T T H N Y V | | | | | |
| AAAAAGTGIG | GTTTATGCC | TACAGGAACC | CTTCAGAGTC | CACTTCCCTA | 300 |
| K V W F M P Y R K P S E S | T S L | | | | |
| K K C G L C P T G S P Q S P P P Y | | | | | |
| K S V V Y A L Q E A L R V H L P T | | | | | |
| CCCCAGOGTC | CCCTCCCCGA | CTCTTCTTC | AACTAATAAG | GACCCCCCTT | 350 |
| P Q R P L P D S F L N . . G | P P F | | | | |
| P S V P S P T P S S T N K D P P L | | | | | |
| P A S P P R L L P Q L I R T P L | | | | | |
| TAACCCAAAC | GGTCCAAAAG | GAGATAGACA | AAGGGGTAAA | CAATGAACCA | 400 |
| N P N G P K G D R Q R G K Q . T K | | | | | |
| T Q T V Q K E I D K G V N N E P | | | | | |
| . P K R S K R R . T K G . T M N Q | | | | | |
| AAGAGTGCGA | ATATTCGGG | ATTATGCGCC | CTCCAAAGCAG | TGAGAGGGAGG | 450 |
| E C Q Y S P I M P P P S S E R R | | | | | |
| K S A N I P R L C P L Q A V R G G | | | | | |
| R V P I F P D Y A P S K Q . E E E | | | | | |
| AGAATTGGC | CCAGGCCAGAG | TCCCTGTACC | TTTTTCTCTC | TCAGACTTAA | 500 |
| R I R P S Q S A C T F F S L R L K | | | | | |
| E F G P A R V P V P F S L S D L K | | | | | |
| N S A Q P E C L Y L F L S Q T . | | | | | |

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FIG 6 (continued)

| | 10 | 20 | 30 | 40 | 50 | |
|-------------------|---------------------|-------------------|-------------------|-------------------|-------------------|------|
| <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | |
| AGCAAATTAA | AATAGACCTA | GGTAAATTCT | CAGATAACCC | TGACGGCTAT | | 550 |
| A N . | N R P R . | I L R . P . | R L Y | | | |
| Q I K I D L | G K F S | D N P | D G Y | | | |
| S K L K . T . | V N S | Q I T L | T A I | | | |
| ATTGATGTTT | TACAAGGGTT | AGGACAATCC | TTTGATCTGA | CATGGAGAGA | | 600 |
| . C F T R V | R T I L . | S D M E R | | | | |
| I D V L Q G L | G Q S | F D L T | W R D | | | |
| L M F Y K G . | D N P L I . | H G E I | | | | |
| TATAATGTTA | CTACTAAATC | AGACACTAAC | CCCAAATGAG | AGAAGTGCGG | | 650 |
| Y N V T T K S | D T N P K . | E K C R | | | | |
| I M L L L N Q | T L T P N E | R S A A | | | | |
| . C Y Y . I R H . | P Q M R | E V P | | | | |
| CTGTAACCTGC | AGCCCGAGAG | TTTGGCGATC | TTTGGTATCT | CAGTCAGGCC | | 700 |
| C N C S P R V | W R S L V S | Q S G Q | | | | |
| V T A A R E F | G D L W Y L | S Q A | | | | |
| L . L Q P E S | L A I F G I S | V R P | | | | |
| AACAATAGGA | TGACAACAGA | GGAAAGAACCA | ACTOCCACAG | GCCAGCCAGG | | 750 |
| Q . D D N R G | K N N S H R | P A G | | | | |
| N N R M T T E | E R T T P T G | Q Q A | | | | |
| T I G . Q Q R | K E Q L P Q | A S R Q | | | | |
| AGTCCCCAGT | GTAGACCCCT | ATGGGACAC | AGAATCAGAA | CATGGAGATT | | 800 |
| S S Q C R P S | L G H R I R T | W R L | | | | |
| V P S V D P H | W D T E S E | H G D W | | | | |
| F P V . T L I | G T Q N Q N | M E I | | | | |
| GGTGCACAA | ACATTGCTA | ACTTGGTGC | TAGAAGGACT | GAGGAAA | | 850 |
| V P Q T F A N | L R A R R T | E E N . | | | | |
| C H K H L L T | C V L E G L R K T | | | | | |
| G A T N I C . | L A C . K D . | G K L | | | | |
| ACGAAGAAC | CTATGAATIA | CICAATGATG | TOCACTATAA | CACAGGGAAA | | 900 |
| E E A Y E L | L N D V | H Y N T G K | | | | |
| R K K P M N Y | S M M S T I T | Q G K | | | | |
| G R S L . I T | Q . C P L . | H R E R | | | | |
| GGAAAGAAAAT | CTTACCTGCT | TTCCTGGACAG | ACTAAGGGAG | GCATTCAGGA | | 950 |
| G R K S Y C F | S G Q T K G G | I E E | | | | |
| E E N L T A F | L D R L R E | A L R K | | | | |
| K K I L L L F | W T D . G R H . | G | | | | |
| AGCATAACCTC | OCTGTCACCT | GACTCTATTG | AAGCCAACT | AATCTTAAAG | | 1000 |
| A Y L P V T . | L Y . R P T N L K G | | | | | |
| H T S L S P D | S I E G Q L I L K | | | | | |
| S I P P C H L | T L L K A N . | S . R | | | | |

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FIG 6 (continued)

| | 10 | 20 | 30 | 40 | 50 | |
|---------------|-------------------|-------------------|-------------------|-------------------|-------------------|--|
| | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | |
| GATAAGTTA | TCACTCAGTC | AGCTGCAGAC | ATTAAGAAAAA | ACTTCAAAAG | 1050 | |
| D K F I | T Q S A A D | I R K N | F K S | | | |
| I S L S L S Q | L Q T L E K | T S K V | | | | |
| TCTGCCCTAG | GGCGGAGCA | GAACCTAGAA | ACCCATTTA | ACTTGGCATC | 1100 | |
| S A L G | P E Q N L E | T L F N | L A S | | | |
| L P . | A R S R T . | K P Y L | T W H P | | | |
| C L R P G A | E L R N P I . | L G I | | | | |
| CTCAGTTTTT | TATAATAGAG | ATCAGGAGGA | CCAGGGAAA | CGGGACAAAC | 1150 | |
| S V F Y N R D | Q E E Q A K | R D K R | | | | |
| Q F F I I E | I R R S | R R N | G T N | | | |
| L S F L . . | R S G G | A G E T | G Q T | | | |
| GGGATAAAAAA | AAAAAGGGGG | GGTCCACTAC | TTTACTCTTG | GGCCCTCAGGC | 1200 | |
| D K K K R G | G P L L . | S W P S G | | | | |
| G I K K K G G | V H Y F S H , G | P Q A | | | | |
| G . K K K G G | S T T L V M | A L R Q | | | | |
| AAGCAGACTT | TGGAGGCTCT | CCAAAAGGGA | AAAGCTGGGC | AAATCAAATG | 1250 | |
| K Q T L E A L | Q K G K A G Q | I K C | | | | |
| S R L W R L C | K R E K L G | K S N A | | | | |
| A D F G G S | A K G K S W A | N Q M | | | | |
| CCTAATAGGG | CTGGCTTCCA | GTGGGGCTCA | CAAGGACACT | TTAAAAAAAGA | 1300 | |
| L I G L A S S | A V Y K D T | L K K I | | | | |
| . . G W L P | V R S T R T L | . K R | | | | |
| P N R A G F Q | C G L Q G H F | K K D | | | | |
| TTATOCAGT | AGAAATAAGC | CGCCCCCTTG | TOCATGCCCC | TTACGTCAAG | 1350 | |
| I Q V E I S | R P L V H A P | Y V K | | | | |
| L S K . K . A | A P L S M P L | T S R | | | | |
| Y P S R N K P | P P C P C P | L R Q G | | | | |
| GGAATCACTG | GAAGCCCCAC | TGCCCCAGGG | GATGAAGATA | CCTCTGAGTCA | 1400 | |
| G I T G R P T | A P G D E D T | L S Q | | | | |
| E S L E G P L | P Q G M K I | L . V R | | | | |
| N H W K A H C | P R G . R Y | S E S | | | | |
| GAAGOCATTA | ACCAGCTGAT | CCAGCAGCAG | GACTGAGGGT | GGGGGGGGCG | 1450 | |
| K P L T R . S | S S S R T E G | A R G E | | | | |
| S H . P D D | P A A G L R V | P G A | | | | |
| E A I N Q M I | Q Q Q D . G C | P G R | | | | |
| AGGGCCAGCC | CATGCCATCA | CCCTCACACA | GGGGGGGTA | TGTTTGACCA | 1500 | |
| R Q P M P S | P S Q S P G Y | V . P | | | | |
| S A S P C H H | P H R A P G M | F D H | | | | |
| A P A H A I T | L T E P R V | C L T I | | | | |

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FIG 6 (continued)

| 10 | 20 | 30 | 40 | 50 |
|------------|------------|------------|------------|------------|
| 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 |

TTGAGAGCCA A 1511

L R A

. E P

E S Q

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FIG 7

| 10 | 20 | 30 | 40 | 50 | |
|-------------|------------|-------------|-------------|------------|-----|
| 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | |
| ATGGGCAGCA | GCCATCATCA | TCACTCATCAC | AGCAGGCGCC | TGGTGGCGCG | |
| M G S S | H H H | H H H | S S G L | V P R | 50 |
| CGGCAGCCAT | ATGGCTAGCA | TGACTGGTGG | ACAGCAAATG | GGTGGGATOC | 100 |
| G S H | M A S M | T G G | Q Q M | G R I L | |
| TAGAACTAT | TCTGGAGAAT | TCGGACCAAT | GIGACACTCA | GACGCTAAGA | 150 |
| E R I | L E N | W D Q C | D T Q | T L R | |
| AAGAAACGAT | TTATATTCTT | CTGGCAGTACC | GCCTGGCAC | AATACTCT | 200 |
| K K R F | I F F | C S T | A W P Q | Y P L | |
| TCAAGGGAGA | GAAACCTGGC | TTCTTGAGGG | AAGTATAAAAT | TATAACATCA | 250 |
| Q G R | E T W L | P E G | S I N | Y N I I | |
| TCTTACAGCT | AGACCTCTTC | TGTAGAAAGG | AGGGCAAATG | GAGTGAAGTG | 300 |
| L Q L | D L F | C R K E | G K W | 'S E V | |
| CCATATGTGC | AAACTTTCTT | TTCATTAAGA | GACAACCTCAC | AATTATGTAA | 350 |
| P Y V Q | T F F | S L R | D N S Q | L C K | |
| AAAGTGTGGT | TTATGCCCTA | CAGGAAGCCC | TCAGAGTCGA | CCTCCCTTAC | 400 |
| K C G | L C P T | G S P | Q S P | P P Y P | |
| CCAGOGTCCC | CTCCCCGACT | CTTCTCTCAA | CTAATAAGGA | CCCCCTTTA | 450 |
| S V P | S P T | P S S T | N K D | P P L | |
| ACCCAAAOGG | TCCAAGGAGA | GATAGACAAA | GGGGTAAACA | ATGAACCAAA | 500 |
| T Q T V | Q K E | I D K | G V N N | E P K | |
| GAGTGCCTAT | ATTOCCCGAT | TATGCCCTCT | CCAGCAGTG | AGAGGAGGAG | 550 |
| S A N | I P R L | C P L | Q A V | R G G E | |
| AATTGGGOC | AGCCAGAGTG | CTCTGACCTT | TTCTCTCTIC | AGACTTAAAG | 600 |
| F G P | A R V | P V P F | S L S | D L K | |
| CAAATTTAAA | TAGACCTAGG | TAAATTCTCA | GATAACCTTG | ACGGCTATAT | 650 |
| Q I K I | D L G | K F S | D N P D | G Y I | |
| TGATGTTTA | CAAGGGTTAG | GACAATCTT | TGATCTGACA | TGGAGAGATA | 700 |
| D V L | Q G L G | Q S F | D L T | W R D I | |
| TAATGTTACT | ACTAAATCAG | ACACTAACCC | CAAATGAGAG | AAGTGGCGCT | 750 |
| M L L | L N Q | T L T P | N E R | S A A | |
| GTAACCTGGAG | CGCGAGAGTT | TGGTATCTCA | GTCAGGCGAA | | 800 |
| V T A A | R E F | G D L | W Y L S | Q A N | |

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FIG 8

| 10 | 20 | 30 | 40 | 50 | |
|---------------------|-----------------------|---------------------|-----------------------|-----------------------|-----|
| <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | |
| A T G G C T A G C A | T G A C T G G I G G | A C A G C A A A T G | G G T C G G A T C C | T A G A A C G T A T | 50 |
| M A S M | T G G | Q Q M | G R I L | E R I | |
| T C T G G A G A A T | T G G G A C C A A T | G T G A C A T C A | G A C G C T A A G A | A A G A A A C G A T | 100 |
| L E N | W D Q C | D T Q | T L R | K K R F | |
| T T A T A T T C T T | C T G C A G T A C C | G C C T G G C A C | A A T A T O C T C T | T C A A G G G A G A | 150 |
| I F F | C S T | A W P Q | Y P L | Q G R | |
| G A A A C C T G G C | T T C C T G A G G G | A A G T A T A A A T | T A T A A C A T C A | T C T T A C A G C T | 200 |
| E T W L | P E G | S I N | Y N I I | L Q L | |
| A G A C C T C T C | T G T A G A A A G G | A G G G C A A A T G | G A G T G A A G T G | C C A T A T G I G C | 250 |
| D L F | C R K E | G K W | S E V | P Y V Q | |
| A A A C T T T C T T | T T C A T T A A G A | G A C A A C T C A C | A A T T A T G T A A | A A A G T G I G G T | 300 |
| T F F | S L R | D N S Q | L C K | K C G | |
| T T A T G C C T A | C A G G A A G O C C | T C A G A G T C A | C C T C C C T A C C | O C C A G O G T C C C | 350 |
| L C P T | G S P | Q S P | P P Y P | S V P | |
| C T C C C C G A C T | C C T C C T C A A | C T A A T A A G G A | C C C C C C T T A | A C C C A A A C G G | 400 |
| S P T | P S S T | N K D | P P L | T Q T V | |
| T O C A A A A G G A | G A T A G A C A A A | C G G G T A A A C A | A T G A A C C A A A | G A G T G C C A A T | 450 |
| Q K E | I D K | G V N N | E P K | S A N | |
| A T T C C C C G A T | T A T G C C C C C T | C C A A G C A G T G | A G A C G G A G G A G | A A T T C G G C C C | 500 |
| I P R L | C P L | Q A V | R G G E | F G P | |
| A G C C A G A G T G | C C T G T A C C T T | T T T C T C T C T C | A G A C T T A A A G | C A A A T T A A A A | 550 |
| A R V | P V P F | S L S | D L K | Q I K I | |
| T A G A C C T A G G | T A A A T C C I C A | G A T A A C C C T G | A C C G C T A T A T | T G A T G T T T A | 600 |
| D L G | K F S | D N P D | G Y I | D V L | |
| C A A G G G T A G | G A C A A T C C T T | T G A T C T G A C A | T G G A G A G A T A | T A A T G T T A C T | 650 |
| Q G L G | Q S F | D L T | W R D I | M L L | |
| A C T A A A T C A G | A C A C T A A C C C | C A A A T G A G A G | A A G T G O O G C T | G T A A C T G C A G | 700 |
| L N Q | T L T P | N E R | S A A | V T A A | |
| C C O G A G A G T T | T G G G O G A T C T T | T G G T A T C I C A | G T C A G G C C A A | C A A T A G G A T G | 750 |
| R E F | G D L | W Y L S | Q A N | N R M | |
| A C A A C A G A G G | A A A G A A C A A C | T O C C A C A G G C | C A G C A G G C A G | T T C C C A G T G T | 800 |
| T T E E | R T T | P T G | Q Q A V | P S V | |

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FIG 8 (continued)

| 10 | 20 | 30 | 40 | 50 | |
|-------------|-------------|------------|------------|-------------|------|
| 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | |
| AGACCCTCAT | TGGGACACAG | AATCAGAAC | TGGAGATTGG | TGCCACAAAC | 850 |
| D P H | W D T E | S E H | G D W | C H K H | |
| ATTTGCTAAC | TTCGGTGTCA | GAAGGACTGA | GGAAAATCG | GAAGAAGCCT | 900 |
| L L T | C V L | E G L R | K T R | K K P | |
| ATGAATTACT | CAATGATGTC | CACTATAACA | CAGGGAAAGG | AAGAAAATCT | 950 |
| M N Y S | M M S | T I T | Q G K E | E N L | |
| TACTGCCTTT | CTGGACAGAC | TAAGGGAGGC | ATTGAGGAAG | CATAACCTCCC | 1000 |
| T A F | L D R L | R E A | L R K | H T S L | |
| TGTCAACCTGA | CCTCTATTGAA | GGCCAACTAA | TCTTAAAGGA | TAAGTTTATC | 1050 |
| S P D | S I E | G Q L I | L K D | K F I | |
| ACTCAGTCAG | CTGCAGACAT | TAGAAAAAAC | TTCAAAAGTC | TGCCCTAAGCT | 1100 |
| T Q S A | A D I | R K N | F K S L | P K L | |
| TGGGGGGCGCA | CTGGAGCACCC | ACCAACACCA | CCACTGAGAT | CGGGCTGCTA | 1150 |
| A A A | L E H H | H H H | H . D | P A A N | |
| ACAAAGCCCG | AAAGGAAGCT | GAGITGGCTG | GTGGCA | | 1186 |
| K A R | K E A | E L A G | G | | |

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FIG 9

| 10 | 20 | 30 | 40 | 50 | |
|-----------------------|---------------|-------------|-------------|-------------|-----|
| 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | |
| TGTCCGGTGT | GCTCCCTGATC | CAGCACAGGC | GCACATTGCC | TCTCCCAATT | 50 |
| C P L C S . S | S T G A H C L | S Q L | | | |
| V R C A P D P | A Q A P I A | S P N W | | | |
| S A V L L I | Q H R R | P L P L P I | | | |
| GGGCTAAAGG | CTTGCCATTG | TTCCTGCACA | GCTAAGTGCC | TGGGTTTCATC | 100 |
| G . R L A I V | P A Q L S A | W V H P | | | |
| A K G L P L F L H S | . V P G F I | | | | |
| G L K A C H C S C T | A K C L G S S | | | | |
| CTAACGAGC | TGAACACTAG | TCACTGGGT | CCACGGTTCT | CTTCCATGAC | 150 |
| N R A E H . S L G S | T V L F H D | | | | |
| L I E L N T S H W V | P R F S S M T | | | | |
| . S S . T L V T G F | H G S L P . P | | | | |
| CCATGGCTTC | TAATAGAGCT | ATAACACTCA | CTGCATGGTC | CAAGATTCCA | 200 |
| P W L L I E L . H S | L H G P R F H | | | | |
| H G F . . S Y N T H | C M V Q D S I | | | | |
| M A S N R A I T L T | A W S K I P | | | | |
| TTCCCTGGAA | TCCGTGAGAC | CAAGAACCCC | AGGTAGAGA | ACACAAGGCT | 250 |
| S L E S V R P R T P | G Q R T Q G L | | | | |
| P W N P . D Q E P Q | V R E H K A | | | | |
| F L G I R E T K N P | R S E N T R L | | | | |
| TGCCACCATG | TTGGAAGCAG | CCCACCA | TTTGGAAAGC | AGCCCGCCAC | 300 |
| P P C W K Q P T T I | L E A A R H | | | | |
| C H H V G S S P P P | F W K Q P A T | | | | |
| A T M L E A A H H H | F G S S P P L | | | | |
| TATCTGGGA | GCTCTGGGAG | CAAGAACCCC | AGGTAAACAAT | TIGGIGACCA | 350 |
| Y L G S S G S K D P R | . Q F G D H | | | | |
| I L G A L G A R T P | G N N L V T T | | | | |
| S W E L W E Q G P Q | V T I W . P | | | | |
| CGAAGGGACC | TGAATCCGCA | ACCATGAAGG | GATCTGAAA | GCAATTGGAA | 400 |
| E G T . I R N H E G | I S K A I G N | | | | |
| K G P E S A T M K G | S P K Q L E | | | | |
| R R D L N P Q P . R | D L Q S N W K | | | | |

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FIG 9 (continued)

| 10 | 20 | 30 | 40 | 50 | |
|--|-------------------|-------------------|-------------------|-------------------|-----|
| <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | |
| ATGTTCCCTCC | CAAGGCCAAA | ATGCCCTAA | GATGTATTCT | GGAGAATTGG | 450 |
| V P P | K A K | M P L R | C I L | E N W | |
| M F L P | R Q K | C P . | D V F W | R I G | |
| C S S | Q G K N | A P K | M Y S | G E L G | |
| GACCAATTIG ACCCTCAGAC AGTAAGAAAA AAATGACTTA TATTCTTCIG | | | | | 500 |
| D Q F D | P Q T | V R K K . | L I | F F C | |
| T N L | T L R Q . | E K N D L | Y S S A | | |
| P I . | P S D | S K K K | M T Y | I L L | |
| CAGTACCGCC CTGGCCACGA TATCCCTCTC AAGGGGGAGA AACCTGGCTT | | | | | 550 |
| S T A | L A T I | S S S | R G R | N L A S | |
| V P P | W P R | Y P L Q | G G E | T W P | |
| Q Y R P | G H D | I L F | K G E K | P G L | |
| CCTGAGGGAA GTATAAATTA TAACACCAC TTAGCTAG ACCTGTTTG | | | | | 600 |
| . G K | Y K L | . H H L | T A R | P V L | |
| P E G S | I N Y | N T I | L Q L D | L F C | |
| L R E V . | I I | T P S | Y S . | T C F V | |
| TAGAAAAGGA GGCAAATGGA GTGAAGTGCC ATATTTACAA ACTTCTTTT | | | | | 650 |
| . K R R | Q M E | . S A | I F T N | F L F | |
| R K G | G K W S | E V P | Y L Q | T F F S | |
| E K E | A N G | V K C H | I Y K | L S F | |
| CATTAAAAGA CAACTCGCAA TTATGTTAAC AGIGIGATTG GTGTCTTAC | | | | | 700 |
| I K R | Q L A I | M L T | V . F | V F L H | |
| L K D | N S Q | L C . Q | C D L | C S Y | |
| H . K T | T R N | Y V N | S V I C | V P T | |
| ACGGAAAGCC TCAGATTCTA CTCCTCACCC CGGGCATCTC CCTGAAATCC | | | | | 750 |
| G S P | Q I L | L P T P | G I S | P E S | |
| T E A L | R F Y | S P P | P A S P | L N P | |
| R K P | S D S T | P H P | R H L | P . I P | |
| CTCCCCAACT TATT | | | | | 764 |
| L P N L | | | | | |
| S P T | Y | | | | |
| P Q L | I | | | | |

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FIG 10

| 10 | 20 | 30 | 40 | 50 | |
|---|---------------|------------|-------------|------------|-----|
| 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | |
| TGTCCGCTGT | GCTCCTGATC | CAGCACAGGC | GCCCCATTGCC | TCTCCCAATT | 50 |
| C P L C S . S | S T G A H C L | S Q L | | | |
| V R C A P D P | A Q A P I A | S P N W | | | |
| S A V L L I Q H R R | P L P | L P I | | | |
| GGGCTAAAGG CTGCGCATTG TICCTIGACA GCTAAGIGCC TGGGTTTCATC | | | | | 100 |
| G . R L A I V P A Q L S A W V H P | | | | | |
| A K G L P L F L H S . V P G F I | | | | | |
| G L K A C H C S C T A K C L G S S | | | | | |
| CTAACGAGC TGAACACTAG TCACCTGGGTT CCACGGTTCT CTCATGAC | | | | | 150 |
| N R A E H . S L G S T V L F H D | | | | | |
| L I E L N T S H W V P R F S S M T | | | | | |
| . S S . T L V T G F H G S L P . P | | | | | |
| CCATGGCTTC TAATAGAGCT ATAACACTCA CTGCATGGTC CAAGATTCCA | | | | | 200 |
| P W L L I E L . H S L H G P R F H | | | | | |
| H G F . . S Y N T H C M V Q D S I | | | | | |
| M A S N R A I T L T A W S K I P | | | | | |
| TTCCTTGGAA TCGTGAGAC CAAGAACCCC AGGTAGAGA ACACAAGGCT | | | | | 250 |
| S L E S V R P R T P G Q R T Q G L | | | | | |
| P W N P . D Q E P Q V R E H K A | | | | | |
| F L G I R E T K N P R S E N T R L | | | | | |
| TGCAACCATG TTGGAAGGAG CCCACCAACCA TTTGGAAAGC GGCGCGCAC | | | | | 300 |
| P P C W K Q P T T I L E A A R H | | | | | |
| C H H V G S S P P P F W K R P A T | | | | | |
| A T M L E A A H H H F G S G P P L | | | | | |
| TATCTTGGGA CCTCTGGGAG CAAGGACCCC CAGGTAAACAA TTGTTGACC | | | | | 350 |
| Y L G S S G S K D P Q V T I W . P | | | | | |
| I L G A L G A R T P R . Q F G D H | | | | | |
| S W E L W E Q G P P G N N L V T | | | | | |
| ACGAAGGGAC CTGAATCGC AACCATGAAG GGATCTCCAA AGCAATTGGA | | | | | 400 |
| R R D L N P Q P . R D L Q S N W K | | | | | |
| E G T . I R N H E G I S K A I G | | | | | |
| T K G P E S A T M K G S P K Q L E | | | | | |

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FIG 10 (continued)

| 10 | 20 | 30 | 40 | 50 | |
|-------------------|-------------------|-------------------|-------------------|-------------------|-----|
| <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | |
| AATGTTCCCTC | CCAAGGCCAA | AATGCCCTA | AGATGTATTTC | TGGAGAATTG | 450 |
| C S S | Q G K | N A P K | M Y S | G E L | |
| N V P P | K A K | M P L | R C I L | E N W | |
| M F L | P R Q K | C P . | D V F | W R I G | |
| GGACCAAICT | GACOCTCAGA | CAGTAAGAAA | AAAAATGACT | TATATTCTTC | 500 |
| G P I . | P S D | S K K | K N D L | Y S S | |
| D Q S | D P Q T | V R K | K M T | Y I L L | |
| T N L | T L R | Q . | E K K . | L I F F | |
| TGCAGTACCG | OCTGGCCACG | GATACTCTCT | TCAAGGGGGA | GAAACCTGGC | 550 |
| A V P | P G H G | Y P L | Q G G | E T W P | |
| Q Y R | L A T | D I L F | K G E | K P G | |
| C S T A | W P R | I S S | S R G R | N L A | |
| CTCCTGAGGG | AAGIATAAAAT | TATAACACCA | TCTTACAGCT | AGACCTGTTT | 600 |
| P E G | S I N | Y N T I | L Q L | D L F | |
| L L R E | V . | I I T P | S Y S . | T C F | |
| S . | G K Y K L | . H H | L T A | R P V L | |
| TGTAGAAAAG | GAGGCCAAATG | GAGTGAAGTG | CCATATTTAC | AAACTTTCTT | 650 |
| C R K G | G K W | S E V | P Y L Q | T F F | |
| V E K | E A N G | V K C | H I Y | K L S F | |
| . K R | R Q M E | . S A | I F T | N F L | |
| TTCATTAATAA | GACAACCTCGC | AATTATGTAA | ACAGTGTGAT | TIGTGTCCCTA | 700 |
| S L K | D N S Q | L C K | Q C D | L C P T | |
| H . | K T T R | N Y V N | S V I | C V L | |
| F I K R | Q L A I M | . T V | . F | V S Y | |
| CAGGAAGCCC | TCAGATCTAC | CTCCCTACCC | GGCATCTCC | CTGACTCCCT | 750 |
| G S P | Q I Y | L P T P | A S P . | L L | |
| Q E A L | R S T | S L P | R H L P | D S F | |
| R K P | S D L P | P Y P | G I S | L T P S | |
| CCCCAACCTAA | TAAGGACCCA | CTTCAGCCCA | AACAGTCCAA | AAGGACATAG | 800 |
| P Q L I | R T H | F S P | N S P K | G H | |
| P N . . | G P T | S A Q | T V Q | K D I | |
| P T N | K D P | L Q P K | Q S K | R T . | |

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FIG 11

| | 10 | 20 | 30 | 40 | 50 | |
|------------|-------------------|-------------------|-------------------|-------------------|-------------------|--|
| | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | <u>1234567890</u> | |
| GGCATTGATA | GCACCCATCA | GATGGCCAAA | TCATTATTAA | CIGGACCAAGG | 50 | |
| G I D S | T H Q | M A K | S L F T | G P G | | |
| A L I | A P I R | W P N | H Y L | L D Q A | | |
| H . . | H P S | D G Q I | I I Y | W T R | | |
| CCTTTCAAA | ACTATCAAGC | AGATAGGGCC | CGTGAAGCAT | GCCAAAGAAA | 100 | |
| L F K | T I K Q | I G P | V K H | A K E I | | |
| F S K | L S S R | . G P | . S M | P K K | | |
| P F Q N | Y Q A | D R A | R E A C | Q R N | | |
| TAATCCCCTG | CCTTATGCC | ATGTTCCCTTC | AGGAGAACAA | AGAACAGGCC | 150 | |
| I P C | L I A | M F L Q | E N K | E Q A | | |
| . S P A | L S P | C S F | R R T K | N R P | | |
| N P L | P Y R H | V P S | G E Q | R T G H | | |
| ATTACCCAGG | GGAAGACTGG | CAACTAGATT | TTACCCACAT | GGCCAAATGT | 200 | |
| I T Q G | K T G N | . I L P T W | P N V | | | |
| L P R | G R L A | T R F | Y P H | G Q M S | | |
| Y P G | E D W | Q L D F | T H M | A K C | | |
| CAGGGATTTC | AGCATCTACT | AGTCGGGCA | GATACTTCA | CTGGTGGGT | 250 | |
| R D F | S I Y | . S G Q | I L S | L V G W | | |
| G I S | A S T | S L G R | Y F H | W L G | | |
| Q G F Q | H L L | V W A | D T F T | G W V | | |
| GGAGTCCTCT | CCTTGTAGGA | CAGAAAAGAC | CCAAGAGGT | ATAAAGGCAC | 300 | |
| S L L | L V G | Q K R P | K R | . R H | | |
| G V F S | L | D R K D | P R G N | K G T | | |
| E S S | P C R T | E K T | Q E V | I K A L | | |
| TAATGAAATA | ATTCCAGAT | TGGACTTCC | CCAGGATTAA | CAGGGTGACA | 350 | |
| . . N N | S Q I | W T S | P R I T | G . Q | | |
| N E I | I P R F | G L P | P G L | Q G D N | | |
| M K . | F P D | L D F P | Q D Y | R V T | | |

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FIG 11 (continued)

| 10 | 20 | 30 | 40 | 50 | |
|-------------|-----------------|------------|------------|--------------|-----|
| 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | |
| ATGGCCCCGC | TTCAGGCT | GCAGTAACCC | AGGGAGTATC | CCAGGTGITA | 400 |
| W P R | F Q G C | S N P | G S I | P G V R | |
| G P A | F K A | A V T Q | G V S | Q V L | |
| M A P L | S R L | Q . P | R E Y P | R C . | |
| GGCATACAAT | ATCACTTACA | CTGTCGCTGG | AGGCCACAAT | CCTCCAGAAA | 450 |
| H T I | S L T | L C L E | A T I | L Q K | |
| G I Q Y | H L H | C A W | R P Q S | S R K | |
| A Y N | I T Y T | V P G | G H N | P P E K | |
| AGTCAAGAAA | ATGAATGAAA | CACICAAAGA | TCTAAAAAG | CTAACCCAAG | 500 |
| S Q E N E . | N T Q R | S K K A | N P R | | |
| V K K | M N E T | L K D | L K K | L T Q E | |
| S R K . | M K H S K I . | K S . | P K | | |
| AAACCCACAT | TGCATGACCT | GTTCCTGTC | CTATAACCTT | ACTAACGAAATC | 550 |
| N P H | C M T C | S V A | Y N L | T K N P | |
| T H I A . | P V L L P | I T L | L R I | | |
| K P T L | H D L F C C L . | P Y . | E S | | |
| CATAACTATC | CCCCAAAAAG | CAGGACTTAG | CCCATACGAG | ATGCTATATG | 600 |
| . L S | P K K | Q D L A | H T R | C Y M | |
| H N Y P | P K S | R T . | P I R D | A I W | |
| I T I | P Q K A | G L S | P Y E | M L Y G | |
| GATGGCTTT | CCTAACCAAT | GACCTTGTC | TTCAGTGAGA | AATGCCAAC | 650 |
| D G L S . | P M | T L C | L T E K | W P T | |
| M A F | P N Q . | P C A . | L R | N G Q L | |
| W P F | L T N | D L V L | D . | E M A N | |
| TTAGCTGCAG | ACATCACTC | CTTACCAAAC | TATCAACAAG | TCTTAAAC | 700 |
| . L Q | T S P P | . P N | I N K | F L K H | |
| S C R | H H L | L S Q I | S T S | S . N | |
| L V A D | I T S | L A K | Y Q Q V | L K T | |

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FIG 11 (continued)

| 10 | 20 | 30 | 40 | 50 | |
|-----------------|------------|------------|------------|------------|-----|
| 1234567890 | 1234567890 | 1234567890 | 1234567890 | 1234567890 | |
| ATCACAGGGA | ACCTGTCCCC | GAGAGGAGGG | AAAGGAACTA | TTCACCCCTG | 750 |
| H R E | P V P | E R R E | R N Y | S T L | |
| I T G N | L S P | R G G | K G T I | P P W | |
| S Q G | T C P R | E E G | K E L | F H P G | |
| GIGACATG | | | | | 758 |
| V T | | | | | |
| . | H | | | | |
| D M | | | | | |

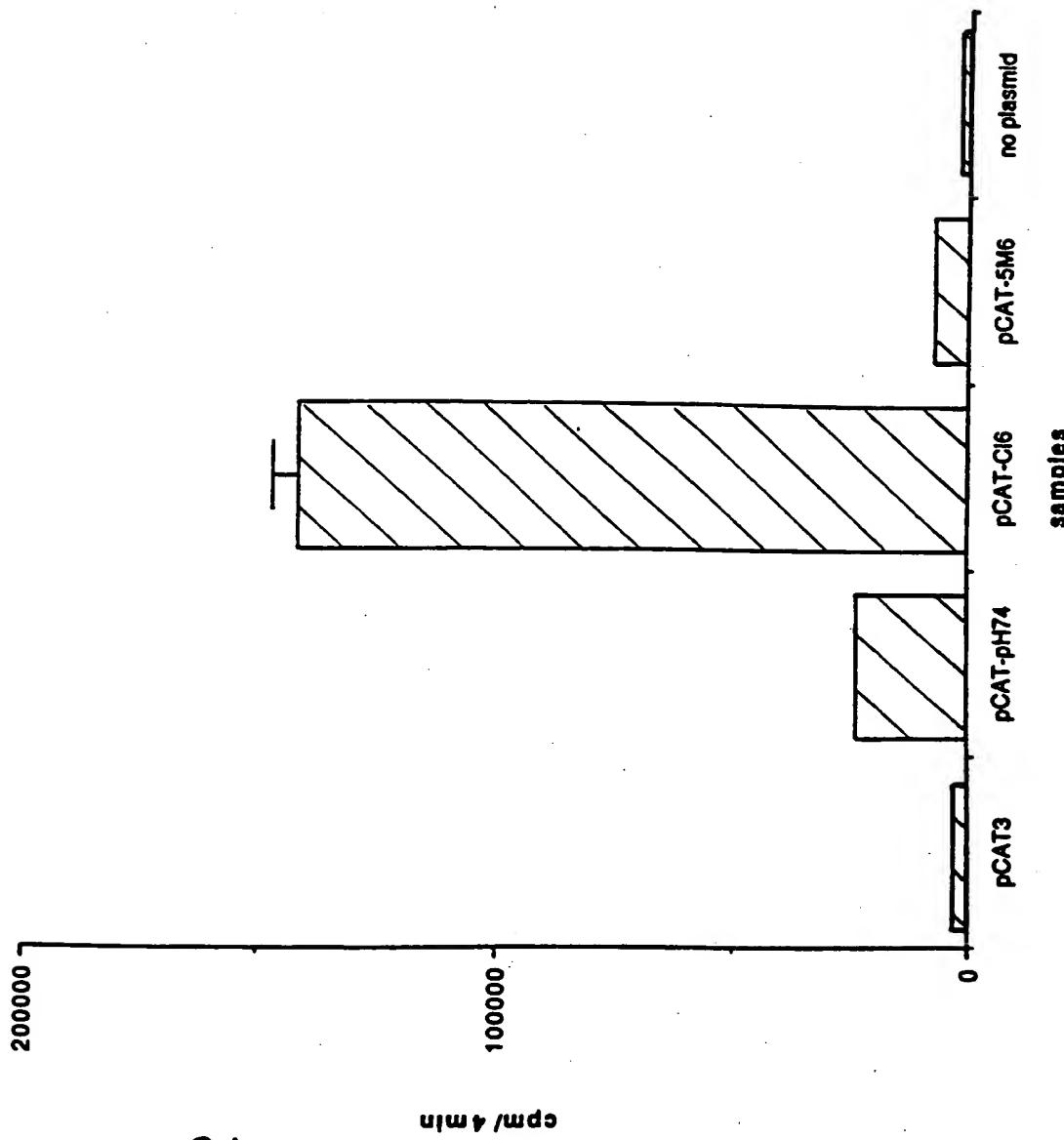


FIG 12

Env

ATGCCCTC CTATATAC TTTCCTTT ACTTCTCTT TACCCCTT CGCTCTCT GCACCCCT CATCTCTG TACACAGT ACTCCCT
 H A L P Y H T P I P T V L L P P P A L T A P P C C C T T S S P Y 100
 ACCAGGTT TTCTACCA ACCGGTCTC CTGGAAATAT TCTGCTCCA TTCTGATCA GCTTCTCTA GCGAACCTC ACCTCTCTC CCTACACCA
 Q E P L R A T R L P G N I D A P S Y R S L S K Q F B T P T A H T H 200
 TATCCCGC AGCTCTAC AGCTCTAC TTCTGATCA GCGAACCTC CTGTCTGG CAGCTGAA ATCTTCTTC CCTTCTCTC TGGAGCTT
 H P R H N C Y H S A T L C H H A N T H Y W T O K H I F P S C P Q Q L 67
 CGAACCTC TTCTGATCA TTCTGATCA GCGAACCTC CTGTCTGG CAGCTGAA ACAGTAAAG AGACGCTT CCTGAGCTT
 G A T V C N P T Y F T H T S H S D Q G Q I Q Q O A R E K Q V K E A I S 300
 CCTACACAC CGCGACAT AGACACCA ACCCTACCA AGGAGCTA AGGAGCTA AGGAGCTA AGGAGCTA AGGAGCTA AGGAGCTA
 Q L P R Q H S T P S P Y R G L V L S K L H E T L R T H T R L V S L 100
 ATTATACG ACCCTACG CCTCTACG CCTCTACG CTAACCTA CTAACTA GATGATG GATGATG CCTCTACG CCTCTACG
 P H T T L T R L H E V S A Q N P T N C W H C L P L H F R P Y I S I 400
 CCTOTCTC ANCAGTAA CCTACTACG ACAGTAA AGAGTAA AGAGTAA CCTACTACG AGAGTAA CCTACTACG AGAGTAA CCTACTACG
 P V P E Q W H H P S T E I F T T S V L V Q P L V S N L E I F H T S []
 ACCCTACG TGTAAATT AGCACTA TAGACACACG CAGCTCTAC CCTACACCC CCTACACCC CCTACACCC CCTACACCC
 C V K P B N T I D T T S S Q C I R W V T P P T R I V C L P B O 200
 ATTATTCG CCTCTCTA CCTCTCTA TTCTCTCTA CCTCTCTA CCTCTCTA CCTCTCTA CCTCTCTA CCTCTCTA CCTCTCTA
 I F P V C G T S A Y H C L N G S S E S H C F L S F L V P P H T I Y 700
 ACTGACAG ATTATACG TTCTCTCTA CCTCTCTA CCTCTCTA AGTACGCTT CCTCTCTA CCTCTCTA CCTCTCTA CCTCTCTA
 T E Q D L Y N H V V P K P H N K R V P I L P P V I R A Q V L C R L G 200
 CCTACTACG TGTAAATT AGCACTA CCTACTACG AGTACGCTT CCTACTACG AGTACGCTT CCTACTACG AGTACGCTT CCTACTACG
 T G I Q S I T T S T Q P Y Y K L S Q E I N G D H E Q V T D S L V T 300
 CCTCTCTCT CCTACTACG AGTACGCTT CCTACTACG AGTACGCTT CCTACTACG AGTACGCTT CCTACTACG AGTACGCTT CCTACTACG
 L Q D Q L N S L A A V V L Q N R A L D L L T A K R Q G T C L F L 1000
 GGAGAGAG AGCTCTCTA TGTAAATT CCTACTACG AGTACGCTT AGTACGCTT CCTACTACG AGTACGCTT CCTACTACG
 C E B R C Y V [N U S] R I V T E K V K E A V K L Q H V L Q H E P Q H E S H T K 134
 ACACCTACG CCTACACCT CCTACACCT CCTACACCT CCTACACCT CCTACACCT CCTACACCT CCTACACCT CCTACACCT
 T E R W G L L S Q W H P W V L P F L G P L A A L I L L P Q P C 467
 TATCTTACG CCTCTCTA AGTACGCTT CCTGAGTT AGTACGCTT AGTACGCTT AGTACGCTT AGTACGCTT AGTACGCTT
 I F N L L V K P V S S R I E A V K L Q H V L Q H E P Q H E S H T K 1300
 ATCCACCG AGACCTACG AGACCTACG AGACCTACG AGACCTACG AGACCTACG AGACCTACG AGACCTACG AGACCTACG
 I H R G P L D R P A S P C S D V N D I E G T P P E R I S T A Q P L L 500
 TATCCCAA TTCACTACG AGCTTCTACG CCTACACCT CCTACACCT CCTACACCT CCTACACCT CCTACACCT CCTACACCT
 C P H S A Q S S 1600
 TAGCTGATT CCTACACCT CCTACACCT CCTACACCT CCTACACCT CCTACACCT CCTACACCT CCTACACCT CCTACACCT
 CCATCTAGG AGCTCTAA AGCTCTAA AGCTCTAA AGCTCTAA AGCTCTAA AGCTCTAA AGCTCTAA AGCTCTAA
 CGGCTATATA AGCTCTAA AGCTCTAA AGCTCTAA AGCTCTAA AGCTCTAA AGCTCTAA AGCTCTAA AGCTCTAA
 ATCTGCAAC TAAAGAAA AAAAGAAA 1900
 Poly A signal 2010

FIG 13

FIG 14

CAGCAACCCC CTTGGTCC CCTCCCATTG TATGGGACT CTGTTTCAC TCTATTAAAT CATGAACTG [CAGCTCTCTG GTCCGTGTT 100
 TTATGGCTC AAGCTGAGCT TTGTTGCC ATCCACCACT GCTGTTGCC ACCGTCACAG ACCCGTGTCT GACTTCATC CCTTGGATC CAGCAGTGG 200
 TCGCTGTC TCCTGATCCA GCACAGGGCG CCATGGCTC TCCCATTGG CCTAAAGGT TGCCATTGTT CCTGCACAGC TAATGGCTG GTTCATCCT 300
 ATCGAGCTG AACACTAGTC ACTGGGTTC ACGGGTCTCT CGGGTCTCT TCCATGAACT AACACTCTA ATAGAGCTAT AACACTCACT GCATGGTCCA AGATTCATT 400
 CCTGGTAATC CGTGAGAAC AGAACCCAG GTCAAGAAC ACAGGCTTG CCACCATGTT GGAGCAGC CACCACTT TTGGAAAGCAG CCCGCCACTA 500
 TCTGGGAGC TCTGGGAGCA AGGACCCAG GTAAACAATTGGTGGACCTG AAAGGACCTG AATCCGCAAC CATGAAGGG AATCCAAAGC ATGGAAAC 600
 PBS →
 GTCCCCCG AGGCCAAAT GCCCCTAGAA CCTATTCTG AGAATGGGA CCAATGTCAC ACTCGAGGCC TAAGAAAGAA ACCGTTATA TCTCTCTGCA 700
 V P P E A K M P L E R I L E N W D Q C D T Q T L R K K R F I F F C S 37
 GTACCGCTG GCCACAAATAT CCTCTTCAG GGAGAGAAC CTGGCTCTCT GAGGGAAAGTA TAATTTATAA CATCATCTTA CAGCTAGACC TCTCTGTAG 800
 T A W P Q Y P L Q R E T W L P E G S I N Y N I I L Q L D L F C R 70
 AAAGGAGGGC AAATGGAGTG AATGGCCATA TGTGCAACT TCTTCTCAT TAAGAGACAA CCTACAATAA TGTAAGAAGT GTGGTTATG CCCTACAGGA 900
 K E G K W S E V P Y V Q T F S L R D N S Q L C K K C G L C P T G 103
 AGCCCTCTAGA GTCCACCTCC CTACCCAGC GTCCCTCTCC CGACTCTTC CTCAACTAAT AAGGACCCCC CTTAACCCA ARCGGTCCAA AAGGGATAG 1000
 S P Q S P P Y P S V P T P S S T N K D P P L T Q T V Q K E I D 137
 ACAAGGGGT AAACAATGAA CCAAAAGCTG CCAATATTCC CGGATTATGCG CCTCTCCAG CAGTGGAGG AGGAGAATT GGCCAGCCA GAGTGGCTGT 1100
 K G V N N E P K S A N I P R L C P L Q A V R G G E F G P A R V P V 170
 ACCCTTTCTCT CTCTCAACT TAAGCAAT TAATAGAC CTAGATAAT TCTAGATAA CCTGTACGGC TATATGTATGTTTACAAAGG GTAGGACAA 1200
 P F S L S D L K Q I K I D L G K F S D N P D G Y I D V L Q G L Q 203
 TCCCTTGATC TGACATGGAG AGATATAATG TTACTACTAA ATCAGACACT AACCCCAAAT GAGAGAAGTG CCGCTGTAC TGAGGCCGA GAGTTGGCG 1300
 S F D L T W R D I M L L L N Q T L T P N E R S A A V T A A R E F G D 237
 ATCTTGGTA TCTCAGTCAG GCCACAAATA GGATGACAAAC AGGGAAAGA ACAACTCCCA CAGGCCAGCA GGCAGTTCCC AGTGTAGACC CTCATTGGGA 1400
 L W Y L S Q A N N R M T T E E R T T P T G Q O A V P S V D P H W D 270
 CACAGAAATCA GAACATGGAG ATTGGTGCCTA AACACATTG CTAACTGCG TGCTAGAAGG ACTGGGAAA ACTAGGAAAGA AGCCTATGAA TTACTCAATG 1500
 T E S E H G D W C H K H L L T C V L E G L R K T R K K P M N Y S M 303
 ATGTCACTA TAACACAGGG AAAGGAAGAA AATCTTACTG CTTTCTGGA CAGACTAAGG GAGGCATGGA GGAAGCATAAC TCTCCCTGTCA CCTGACTCTA 1600
 M S T I T Q G K E E N L T A F L D R L R E A L R K H T S L S P D S I 337
 TTGAGGGCCA ACTAACTTA AGGATAAGT TTATCACTCA GTCAAGTCAG GACATTAGAA AAAAACTTCA AAAGTCGGC TTAAGGTCTGG AACAAACCTT 1700
 E G Q L I L K D K F I T Q S A A D I R K K L Q K S V L G S E Q N L 370
 AGAACCCCTA TTGAACTGG CAACCTGG TTCTTATAAT AGAGATCAGG AGGAGCAGGC AGAGATGGAC AAATGGGATA AAAAAGGGAGGCGCT 1800
 E T L L N L A T S V F Y N R D Q E E Q A E W D K W D K K R A T A 403
 TTAGTCATGG CCCTCAGGC AGGGACTTT GGAGGCTCTG GAGGGAA AGGCTGGCA ATAGGAAGC CTAATAGGGC TTGGTCTCCAG TGGGTCTAC 1900
 L V M A L R Q A D F Q G S G K G K S W . A N R K P N R A E F Q E G L Q 437
 AAGGACACTT AAAAAGAT TGTCAAATA GAAATAAGCC GCCCCCTCT TACGTCAAGG GAATCACTGG AAGGCCCACT GCCCCAGGG 2000
 G H F K D C P N R N K P P C/R P C P L R Q G N / . H W K A H C P R G 470
 ATCAAGATACTC TCTGAGTCAG AAGCATTAA CGAGATGATC CAGCAGGG ACTGA 2055
 S R Y S E S E A I N Q M I Q Q Q D 487

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FIG 15

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FIG 16